

No.

9600074



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Asgrow Seed Company LLC

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'A5547'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-seventh day of October, in the year of our Lord two thousand.

Attest:

[Signature]

Acting Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[Signature]

Secretary of Agriculture

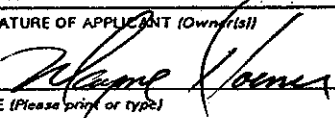
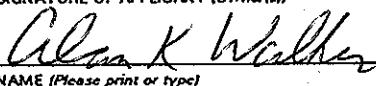
U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate) ASGROW SEED COMPANY		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER QP5547	3. VARIETY NAME A5547
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 7089-248-23 2605 East Kilgore Road Kalamazoo, MI 49002-1744		5. TELEPHONE (include area code) 616-384-5548	FOR OFFICIAL USE ONLY PVPO NUMBER 9600074 DATE DECEMBER 1, 1995 FILING AND EXAMINATION FEE \$2450.00 DATE Dec. 1, 1995 CERTIFICATION FEE 300 DATE 9/15/00
6. FAX (include area code) 616-384-5652		7. GENUS AND SPECIES NAME Glycine max	
8. FAMILY NAME (Botanical) Leguminosae		9. CROP KIND NAME (Common name) Soybean	
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name) Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		12. DATE OF INCORPORATION March 22, 1968	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Dr. Donald Steffen Wayne Hoener, 7089-248-23 Asgrow Seed Company 2605 East Kilgore Road Kalamazoo, MI 49002-1744 Ames, IA 50010-9015 Dr. Alan K. Walker JLS; July 8, 1999 Asgrow Seed Company 5926 E. U.S. Highway 14 Janesville, WI 53546-8655 Ames, IA 50010-6598		14. TELEPHONE (include area code) 616-384-5548 608-755-1777 616-384-5652 608-755-0128 RAD 6/28 SIS 9S6300 SIS-232-6905	
15. FAX (include area code) 616-384-5652 608-755-0128			
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act)? <input type="checkbox"/> YES (If "yes," answer items 18 and 19 below) <input checked="" type="checkbox"/> NO (If "no," go to item 20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> YES (If "yes," give names of countries and dates) <input checked="" type="checkbox"/> NO			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s))  NAME (Please print or type) Wayne Hoener		SIGNATURE OF APPLICANT (Owner(s))  NAME (Please print or type) Alan K. Walker	
CAPACITY OR TITLE Soybean Product Manager	DATE 11/15/95	CAPACITY OR TITLE Director Soybean Research	DATE 11/20/95

ASGROW SEED COMPANY
PVP APPLICATION A5547 SOYBEAN
November, 1995

EXHIBIT A
ORIGIN AND BREEDING HISTORY OF A5547

- 1988 Cross was made in Queenstown, MD
Parentage: Hutcheson * A5403
- 1988-89 F1 and F2 generation grown at Isabela,
Puerto Rico and advanced using modified pedigree
selection.
- 1989 F3 bulk population was grown in Queenstown, MD.
150 single plants were pulled, individually
threshed, and sent to Puerto Rico for increase.
- 1990 F4 progeny rows were grown in Isabela, PR.
Progeny row BR881607 P90-10574 was selected based on
agronomic characteristics.
- Line was tested as entry 34 in a three location
preliminary yield trial.
- 1991 The F3 derived line was advanced to a 9 location
yield trial where it ranked first of 50 entries.
- Seventy-five F5 plants were pulled and sent for short
row increase in Isabela, Puerto Rico to produce breeder
seed.
- 1992 Line was advanced and retested at a total of 12
locations.
- A Maintenance Test of 72 lines was grown for breeder
seed production. Most uniform sub-lines bulked for
breeder seed.
- 1993 Line was advanced and tested in 3 yield trials, which
had a total of 20 locations.
- 1994 Line was tested in 9 yield trials which had between 5
and 13 locations per trial.
- A5547 is uniform and stable within commercially
acceptable limits based on trial observations since
1991. As with other soybean varieties, variants can
occur for almost any characteristic during the course
of repeated sexual reproduction.

Asgrow Seed Company
PVP Application A5547 Soybean
November, 1995

EXHIBIT B
NOVELTY STATEMENT CONCERNING A5547 SOYBEAN

To our knowledge, the soybean varieties that most closely resemble A5547 are A5403 and A5843:

- | | |
|---------------------|---|
| 1. Flower Color | A5547 - White
A5403 - Purple
A5843 - White |
| 2. Hilum Color | A5547 - Buff
A5403 - Imperfect Black
A5843 - Buff |
| 3. Pubescence Color | A5547 - Gray
A5403 - Gray
A5843 - Gray |

4. Plant Height and Days To Maturity:

Yield Test 92QMV502 Summary from 1992 at 7 locations:

<u>Variety</u>	<u>#Locs.</u>	Plant Height (in inches)	<u>#Locs.</u>	Days To Maturity
				After 8/31
ASGROW A5843	6	38.03 ^a	6	46.85 ^{a,b}
ASGROW A5547	6	35.28 ^a	6	45.15 ^a
ASGROW A5403	6	37.53	6	44.15 ^b
LSD (0.05)	6	2.29	6	0.97

Significantly Different at $P < 0.05 = a, b$

Yield Test 93MAC549 Summary from 1993 at 6 locations:

<u>Variety</u>	<u>#Locs.</u>	Plant Height (in inches)	<u>#Locs.</u>	Days To Maturity
				After 8/31
ASGROW A5547	5	31.52 ^a	4	31.25 ^a
ASGROW A5843	5	35.47 ^a	4	35.50 ^{a,b}
ASGROW A5403	5	32.50	4	30.50 ^b
LSD (0.05)	5	3.63	4	1.05

Significantly Different at $P < 0.05 = a, b$

Yield Test 93QMS503 Summary from 1993 at 7 locations:

<u>Variety</u>	<u>#Locs.</u>	Plant Height	<u>#Locs.</u>	Days To Maturity
		(in inches)		After 8/31
ASGROW A5547	5	32.30 ^a	5	39.80 ^a
ASGROW A5403	5	34.30	5	38.60 ^b
ASGROW A5843	5	37.20 ^a	5	42.50 ^{a,b}
LSD (0.05)	5	3.83	5	2.07

Significantly Different at $P < 0.05$ = a, b

Yield Test 94XXV550 Summary from 1994 at 7 locations:

<u>Variety</u>	<u>#Locs.</u>	Plant Height	<u>#Locs.</u>	Days To Maturity
		(in inches)		After 8/31
ASGROW A5843	4	36.50 ^a	4	33.85 ^{a,b}
ASGROW A5547	4	33.65 ^a	4	29.67 ^a
ASGROW A5403	4	34.82	4	28.35 ^b
LSD (0.05)	3	2.53	3	1.79

Significantly Different at $P < 0.05$ = a, b

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Asgrow Seed Company	TEMPORARY DESIGNATION QP5547	VARIETY NAME A5547
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 2605 East Kilgore Road, 6825-248-013 Kalamazoo, MI 49002-1744		FOR OFFICIAL USE ONLY PVPO NUMBER 9600074

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a)

2 = Type B (SP1^b)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) _____

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 21 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 1

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 1

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 1

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 2

1 = Slender ('Essex'; 'Amsoy 71')

2 = Intermediate ('Amcor'; 'Braxton')

3 = Bushy ('Gnome'; 'Govan')

★ 17. PLANT HABIT:

☐ 1

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

☐ 0 ☐ 8

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

☐ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☐ 0Bacterial Blight (*Pseudomonas glycinea*)

★

☐ 0Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

☐ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☐ 0Race 1: ☐ 0 Race 2: ☐ 0 Race 3: ☐ 0 Race 4: ☐ 0 Race 5: ☐ 0 Other (Specify) _____☐ 0Target Spot (*Corynespora cassiicola*)☐ 0Downy Mildew (*Peronospora blightorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)

★

☐ 0Brown Stem Rot (*Cephalosporium gregatum*)☐ 2Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ ☐ 0 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 1 Race 1 ☐ Race 2 ☐ 1 Race 3 ☐ Race 4 ☐ Race 5 ☐ Race 6 ☐ Race 7
- ☐ Race 8 ☐ Race 9 ☐ 2 Other (Specify) Race 12, 13, 19, 25

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 0 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 2 Race 3 ☐ 0 Race 4 ☐ 2 Other (Specify) Race 14
- ☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ 1 OTHER DISEASE NOT ON FORM (Specify): Sudden Death Syndrome

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 0 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ 0 Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	A5403	Seed Coat Luster	A5403
Leaf Shape	Hutcheson	Seed Size	A5403
Leaf Color	Hutcheson	Seed Shape	A5403
Leaf Size	Hutcheson	Seedling Pigmentation	Hutcheson

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

9600074

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
A5547 Submitted	156	2.4	87	8	11	40.6	20.2	13	2.6
A5403 Name of Similar Variety	155	2.0	92	8	12	40.7	20.9	14	2.7

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

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ASGROW SEED COMPANY
PVP APPLICATION A5547 SOYBEAN
June, 1995

EXHIBIT D
ADDITIONAL DESCRIPTION OF VARIETY

A5547 is a mid maturity group V variety . It is resistant to Race 3 and Race 14 of Soybean Cyst Nematode as well as Stem Canker. A5547 is an attractive, determinate plant. It has shown higher yield potential and has been consistantly high yielding in the Mid-South, East Coast as well as in Argentina. It has no specific genes for resistance to Phytophthora Root Rot and is susceptible to Sudden Death Syndrome.

ASGROW SEED COMPANY
PVP APPLICATION A5547 SOYBEAN
November, 1995

EXHIBIT E

STATEMENT OF BASIS OF APPLICANT OWNERSHIP

A5547 was originated and developed by Mr. William K. Rhodes, an Asgrow soybean breeder. By agreement with Asgrow Seed Company, all rights to any invention, discovery or development made by employees are assigned to the company. No rights of such invention, discovery or development are returned to the employee.